

**IN THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF PENNSYLVANIA**

**COMCAST CABLE
COMMUNICATIONS, LLC,
Plaintiff,**

v.

**SPRINT COMMUNICATIONS
COMPANY, LP,
Defendant.**

CIVIL ACTION

NO. 12-859

DuBois, J.

August 16, 2017

MEMORANDUM

TABLE OF CONTENTS

I. INTRODUCTION.....	2
II. RENEWED MOTIONS FOR JUDGMENT AS A MATTER OF LAW	5
A. Standard of Review.....	5
B. Comcast's Renewed Motion for Judgment as a Matter of Law That Claim 113 of the '870 Patent is Not Obvious	6
1. Applicable Law	7
2. Substantial Evidence that the Challenged Limitations Existed in the Prior Art	9
3. No Substantial Evidence of Motivation to Combine or Likelihood of Success	19
4. Conclusion	26
C. Comcast's Alternative Motion for a New Trial on Obviousness.....	27
D. Sprint's Renewed Motion for Judgment as a Matter of Law Under Rule 50	28
1. Applicable Law	28
2. Discussion	29
III. COMCAST'S MOTIONS RELATING TO DAMAGES.....	33
A. Comcast's Motion for a New Trial on Damages	34
1. Standard of Review.....	34
2. Applicable Law	35
3. Sufficient Evidence to Sustain the Jury Verdict	36
4. Forward Citation Analysis	39
5. References to other Sprint patents and a 1999 Nokia Invention Report.....	41
6. Conclusion	43

B. Comcast's Motion to Amend Final Judgment to Add Pre- and Post-Judgment Interest..	44
1. Pre-Judgment Interest	44
2. Post-Judgment Interest.....	48
3. Application of Pre- and Post-Judgment Interest	48
IV. CONCLUSION	49

I. INTRODUCTION

This case involves claims of patent infringement between Comcast Cable Communications, LLC, and Sprint Communications Company, LP. After withdrawal of several claims of infringement, only Comcast's claim for infringement of its U.S. Patent Number 6,885,870 ("the '870 patent") against Sprint and Sprint's Counterclaims for infringement of its U.S. Patents Numbers 6,754,907 and 6,757,907 ("the '907 patents") against Comcast remained in the case. The Court granted summary judgment in favor of Comcast as to Sprint's counterclaims under the '907 patents by Memorandum and Order dated August 24, 2016. *See Comcast Cable Commc'ns, LLC v. Sprint Commc'ns Co., LP (Comcast v. Sprint II)*, 203 F. Supp. 3d 499 (E.D. Pa. 2016). That Memorandum contains the factual background, procedural history, and details of the underlying patents in this case. For purposes of this Memorandum, the following summary of the invention will suffice, and additional facts will be incorporated as necessary.

The '870 patent, titled "Transferring of a Message," claims a method "for inquiring about information relating to a [wireless] terminal of a cellular network from the cellular network, from a messaging server external to the cellular network." '870 patent, at 2:45–48. The preferred embodiment of the invention can be summarized as follows:

1. A multimedia messaging service center ("MMSC") receives and stores a multimedia message ("MMS"). '870 patent, at 6:14–16. The MMS may contain pictures, text, or video, and is addressed to an RFC822 (i.e., e-mail) address, in the standard form name@domain. '870 patent, at 6:47–61. Alternatively, the

message may be addressed to a phone number, which is then converted by the MMSC to a corresponding e-mail address. ‘870 patent, at 6:62–64. In the preferred embodiment, the MMSC is located outside the General Packet Radio Service (“GPRS”) system of the Global System for Communications (“GSM.”). ‘870 patent, at 6:65–66.

2. The MMSC maps the RFC822 address to a different address called an MMS-ID, which the patent describes as an identifier that is “external” to the cellular network. ‘870 patent, at 7:10–22.

3. The MMSC sends an inquiry into the GPRS to a server called the Gateway GPRS Support Node (“GGSN”) “to determine the readiness of the wireless terminal to receive data.” ‘870 patent, at 8:9–12.

4. The GGSN maps the MMS-ID to a corresponding international mobile subscriber identity (“IMSI”) that is specific to a subscriber identity module (“SIM”) card in the wireless terminal. ‘870 patent, at 8:22–25. The GGSN performs the mapping by “inquiring about the IMSI . . . that corresponds to [the] MMS-ID from [a] database, in which the correspondences between the MMS-ID and the IMSI code of the wireless terminal are stored.” ‘870 patent, at 8:25–29.

5. The GGSN uses the IMSI to search its database to determine if the wireless terminal is currently connected to it. ‘870 patent, at 8:31–35. If so, the GGSN (1) retrieves from the database the current dynamic network address of the wireless terminal, and (2) determines whether the wireless terminal is ready to receive the multimedia message. ‘870 patent, at 8:35–39. If the desired wireless terminal is not connected to the GGSN, the GGSN inquires of another GPRS element, the home location register (“HLR”), for the identity of the GGSN to which the wireless terminal is connected, if any, and requests the information from that GGSN. ‘870 patent, at 8:66–9:6, 9:47–51.

6. The ultimate result of the process, regardless of the result of step 5, is that the GGSN sends a response message to the MMSC consisting of the information retrieved regarding the wireless terminal—viz. the status of the wireless terminal including its dynamic network address and current GGSN—and preferably including the MMS-ID, the external identifier used in the request. ‘870 patent, at 10:14–28.

7. The MMSC then sends the message to the wireless terminal at its dynamically assigned network address through the cellular network in packet-switched mode. ‘870 patent, at 11:7–10.

Comcast v. Sprint II, 203 F. Supp. 3d at 510–11.

Comcast asserted Claims 1, 7, and 113 of the ‘870 patent against Sprint. For purposes of the present Motions, only the limitations of Claim 113 are relevant. Claim 113 depends on Claim 112—i.e., Claim 113 incorporates by reference all of Claim 112’s limitations, and adds additional restrictions. Claim 112, which was not asserted, claims:

A method for inquiring about information relating to a wireless terminal of a cellular network, from the cellular network by a messaging server external to the cellular network, wherein the method comprises:

- [1] sending an inquiry from the messaging server to the cellular network to determine said information relating to the terminal, the inquiry comprising a first identifier identifying said terminal, the first identifier being a specific identifier external to the cellular network;
- [2] mapping said first identifier to a specific second identifier in the cellular network, the second identifier being an internal identifier of the cellular network, wherein the mapping is not performed by a Home Location Register;
- [3] determining said information relating to the terminal with the aid of said second identifier;
- [4] sending a response message in response to said inquiry from the cellular network to said messaging server external to the cellular network, in which response message the information relating to said terminal is indicated with the aid of said first identifier.

Claim 113 adds the additional limitation that, in the third step, the determining is performed by the same network element to which the initial inquiry is sent in the first step.

A jury trial on Comcast’s claims for infringement of Claims 1, 7, and 113 of the ‘870 patent began on January 30, 2017. Following a 14-day trial, on February 17, 2017, the jury returned a verdict, finding that Sprint had infringed all three asserted Claims of the ‘870 patent. The jury further found that Claims 1 and 7 of the ‘870 patent were valid as not anticipated and not obvious, and that Claim 113 was not anticipated, but that it was obvious and therefore invalid. The jury awarded Comcast a royalty of \$1,500,000, in the form of a one-time lump sum for the life of the ‘870 patent, for infringement of Claims 1 and 7. The Court entered judgment on February 21, 2017.

Presently before the Court are Comcast's Renewed Motion for Judgment as a Matter of Law that Claim 113 of the '870 Patent is Not Obvious, Sprint's Renewed Motion for Judgment as a Matter of Law Under Rule 50, Comcast's Motion for New Trial on Damages, and Comcast's Motion to Amend Final Judgment to Add Pre-Judgment Interest and Post-Judgment Interest. The Court disposes of the Motions as set forth below.

II. RENEWED MOTIONS FOR JUDGMENT AS A MATTER OF LAW

A. Standard of Review

Federal Rule of Civil Procedure 50(a) provides that after "a party has been fully heard on an issue during a jury trial," a district court may grant judgment as a matter of law ("JMOL") if "the court finds that a reasonable jury would not have a legally sufficient evidentiary basis to find for the party on that issue." Fed. R. Civ. P. 50(a)(1). During trial, both Sprint and Comcast moved for JMOL under Rule 50(a), and the Court denied both Motions. *See* Trial Tr. (Feb. 14, 2017, afternoon) 193:21–200:19; Trial Tr. (Feb. 14, 2017, evening) 3:24–17:9.

"If the court does not grant a motion for judgment as a matter of law made under Rule 50(a) . . . the movant may file a renewed motion for judgment as a matter of law." Fed. R. Civ. P. 50(b). "To succeed on a renewed motion for JMOL following a jury trial and verdict, the movant 'must show that the jury's findings, presumed or express, are not supported by substantial evidence or, if they were, that the legal conclusion(s) implied [by] the jury's verdict cannot in law be supported by those findings.'" *Comaper Corp. v. Antec, Inc.*, 867 F. Supp. 2d 663, 667 (E.D. Pa. 2012) (quoting *Pannu v. Iolab Corp.*, 155 F.3d 1344, 1348 (Fed. Cir. 1998)), *rev'd on other grounds*, 539 F. App'x 1000 (Fed. Cir. 2013). "[W]here there is a black box [i.e., general] jury verdict, as is the case here, we presume the jury resolved underlying factual disputes in favor of the verdict winner and leave those presumed findings undisturbed if

supported by substantial evidence.” *Apple Inc. v. Samsung Elecs. Co.*, 839 F.3d 1034, 1047 (Fed. Cir. 2016). “‘Substantial’ evidence is such relevant evidence from the record taken as a whole as might be accepted by a reasonable mind as adequate to support the finding under review.” *Perkin-Elmer Corp. v. Computervision Corp.*, 732 F.2d 888, 893 (Fed. Cir. 1984).

B. Comcast’s Renewed Motion for Judgment as a Matter of Law That Claim 113 of the ‘870 Patent is Not Obvious

At trial, Sprint’s expert Dr. Nathaniel Polish opined that Claims 1, 7, and 113 of the ‘870 patent were anticipated by PCT Publication No. WO 99/29125 (“Sonera”). In the alternative, Dr. Polish opined that the asserted claims were invalid as obvious based on two theories: (a) the combination of Sonera and PCT Publication No. WO 99/27722 (“Vuoristo”), and (b) the modification of Sonera based on the knowledge of a person having ordinary skill in the art (“skilled artisan”). The jury determined that Claim 113 was not anticipated, but that it was obvious and therefore invalid. However, because the verdict sheet did not include special interrogatories, it is not clear whether the jury determination that Claim 113 was obvious was based on the combination of Sonera and Vuoristo, Sonera as modified based on the knowledge of a skilled artisan, or both theories.

Comcast asks this Court to reverse the jury determination that Claim 113 was obvious. Comcast’s Mem. of Law in Supp. of its Renewed Mot. for Judgment as a Matter of Law that Claim 113 of the ‘870 Patent is Not Obvious (“Comcast JMOL”). Comcast argues (1) that there was no substantial evidence that four limitations of Claim 113 existed in the combined prior art, and (2) that there was no substantial evidence that a skilled artisan would have been motivated to combine the prior art with a reasonable expectation of success. *Id.* at 10, 13, 17, 23, 27. For the reasons set forth below, the Court concludes that there is substantial evidence that each of the four limitations were disclosed by the combined prior art, but there is no substantial evidence of

a motivation to combine the prior art with a reasonable expectation of success. Accordingly, the Court grants Comcast's Motion for JMOL.

1. Applicable Law

An invention is not patent-eligible "if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time of the invention was made to a person having ordinary skill in the art to which the subject matter pertains" (a "skilled artisan"). 35 U.S.C. § 103 (2000). In other words, to be patent-eligible, an invention must not have been obvious to a skilled artisan at the time of invention. "Whether a patent is invalid as obvious is ultimately a determination of law based on underlying determinations of fact." *Geo. M. Martin Co. v. All. Mach. Sys. Int'l LLC*, 618 F.3d 1294, 1300 (Fed. Cir. 2010). The Federal Circuit instructs that a legal determination of obviousness must be based on four factual inquiries: "1) the scope and content of the prior art; 2) the level of ordinary skill in the art; 3) the differences between the claimed invention and the prior art; and 4) secondary considerations of nonobviousness . . ." *Ruiz v. A.B. Chance Co.*, 234 F.3d 654, 662–63 (Fed. Cir. 2000) (citing *Graham v. John Deere Co.*, 383 U.S. 1, 17–18 (1966)).

"[A] patent composed of several elements is not proved obvious merely by demonstrating that each of its elements was, independently, known in the prior art." *KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 418 (2007). Rather, "[a] party seeking to invalidate a patent on obviousness grounds must demonstrate by clear and convincing evidence that a skilled artisan would have been motivated to combine the teachings of the prior art references to achieve the claimed invention, and that the skilled artisan would have had a reasonable expectation of success in doing so." *InTouch Techs., Inc. v. VGO Commc'ns, Inc.*, 751 F.3d 1327, 1347 (Fed. Cir. 2014). The Supreme Court of the United States has cautioned that this analysis, known as the "teaching,

suggestion, or motivation” test, must be “expansive and flexible,” and not “rigid.” *KSR*, 550 U.S. at 407, 415, 419. “In appropriate circumstances, a single prior art reference can render a claim obvious. However, there must be a showing of a suggestion or motivation to modify the teachings of that reference to the claimed invention in order to support the obviousness conclusion.” *IGT v. Bally Gaming Int'l, Inc.*, 610 F. Supp. 2d 288, 320 (D. Del. 2009) (quoting *SIBIA Neurosciences, Inc. v. Cadus Pharm. Corp.*, 225 F.3d 1349, 1356 (Fed. Cir. 2000)), *aff'd*, 659 F.3d 1109 (Fed. Cir. 2011). The obviousness analysis must focus on the knowledge and motivations of the skilled artisan at the time of the invention. *InTouch Techs.*, 751 F.3d at 1348.

The jury was instructed on obviousness. Trial Tr. (Feb. 16, 2017) at 155:12–157:10. After the Court instructed the jury, the Court convened a side bar so the parties could raise objections to the instructions. The sole objection to the obviousness instruction, from Sprint, overruled by the Court and not relevant to the issues presented in Comcast’s Motion for JMOL, was that it should have incorporated the American Intellectual Property Law Association’s Model Jury Instruction 5.3, which instructs the jury that “the higher the level of ordinary skill, the easier it may be to establish obviousness.” Trial Tr. (Feb. 16, 2017) at 175:10–176:11. The Court specifically asked the parties whether the obviousness instruction adequately conveyed the requirements that “there would have to be a reason for combining the two [pieces of prior art].” Trial Tr. (Feb. 16, 2017) at 176:13–177:4. The Court then instructed the parties to “think about” whether the obviousness instruction was “broad enough to cover the case,” and both Sprint and Comcast stated that they would do so. Trial Tr. (Feb. 16, 2017) at 184:11–185:5. The following morning, before the jury began deliberating, Sprint reported that “the obviousness charge as given is fine” to cover the issue raised by the Court, and Comcast reported that it was “fine with the [obviousness] instruction.” Trial Tr. (Feb. 17, 2017, morning) at 3:5–4:20.

2. *Substantial Evidence that the Challenged Limitations Existed in the Prior Art*

Comcast argues that there is no substantial evidence that the prior art disclosed four of the limitations of Claim 113: (1) the “said first identifier” limitation, (2) the “same element” limitation, (3) an external messaging server, and (4) a “mapping” step not performed by a Home Location Register (“HLR”). For the reasons discussed below, the Court disagrees, and concludes that there was substantial evidence that these four limitations were disclosed in the prior art.

a. The “said first identifier” limitation of Claim 113

To begin, Comcast argues that there is no substantial evidence that prior art disclosed Claim 113’s requirement that “the information relating to said terminal is indicated with the aid of said first identifier.” Comcast JMOL at 10. Claim 113, through step four of Claim 112, requires that the cellular network send a response message, including certain information about the subscriber’s terminal, or cell phone, to the messaging server. In the response message, the information about the cell phone is “indicated with the aid of said first identifier” (the “said first identifier” limitation). The Court construed “with the aid of said first identifier” to mean “with the aid of the first identifier, where the first identifier may, but need not be, included in the response message,” and the jury was so instructed. Trial Tr. (Feb. 16, 2017) at 151:20–23. In short, this limitation is satisfied if the first identifier aids in the method described in Claim 113 in any way. *See Comcast v. Sprint II*, 203 F. Supp. 3d at 538 (“Under Comcast’s construction of [‘indicated with the aid of said first identifier,’ which the Court ultimately adopted], any involvement of the first identifier at any step of the method prior to sending a response would satisfy the limitation.”).

Comcast’s challenge focuses on Dr. Polish’s terminology. Dr. Polish opined that the “said first identifier” limitation was disclosed by Sonera’s use of what he “think[s]” is called “a

response ID.” Trial Tr. (Feb. 9, 2017, afternoon) at 37:2–11. When asked whether Sonera uses a “transaction identifier,” Dr. Polish testified that in Sonera, the “messages are actually tagged internally” with the response ID, and “that’s how the first identifier is then used to knit the whole thing together.” *Id.* However, as Comcast notes, Sonera does not use the term “response ID.” Comcast JMOL at 12. Dr. Polish’s testimony is not supported by Sonera, and without more, it is not substantial evidence that this limitation was disclosed in the prior art.

But there is evidence, in both Sonera itself and in the testimony of Comcast’s expert, Dr. Robert Akl, that Sonera uses an “Invoke Id” in a manner similar to the “said first identifier” in Claim 113. *See* Sprint’s Response Comcast’s Renewed Motion for Judgment as a Matter of Law that Claim 113 of the ‘870 Patent is Not Obvious (“Sprint Resp. to Comcast JMOL”) at 9–10. Sonera vaguely describes the Invoke Id as an “[i]dentifier of the MAP service primitive.” *See* Sprint Resp. to Comcast JMOL, Ex. A (DX-243) (“Sonera”) at 10:1–14:15. By Sonera’s plain text, the Invoke Id is included in both its routing inquiry and the response message. Sonera at 10:24–11:22. In addition, Dr. Akl testified that Sonera discloses a process wherein the home location register (“HLR”) “returns certain information,” including “the invoke ID.” Trial Tr. (Feb. 15, 2017) at 120:3–13.

The “said first identifier” limitation is not unusually technical—it is satisfied if the first identifier is simply involved in the patented method at any time prior to the response message. *See Comcast v. Sprint II*, 203 F. Supp. 3d at 538. Sonera discloses an Invoke Id that is included in both the routing inquiry and the response, and Dr. Akl testified that in Sonera, the HLR “returns” information including the Invoke Id. The Court concludes that there is substantial evidence—that is, a reasonable mind would accept this evidence as adequate—to support a determination that Sonera disclosed Claim 113’s “said first identifier” limitation.

b. The “same element” limitation of Claim 113

Comcast further argues that there is no substantial evidence that the prior art disclosed the limitation that “the inquiry is sent to, and the determining is performed by, the same element of the cellular network.” Comcast JMOL at 13. Claim 113 adds this limitation to Claim 112. Comcast argues that Dr. Polish’s testimony as to this limitation is conclusory and contrary to the limitation’s plain meaning. Comcast JMOL at 14–16.

Dr. Polish’s only testimony directly addressing the “same element” language of Claim 113 was that Sonera discloses a step where “the inquiry is being sent to the same element as what’s doing the determining.” Trial Tr. (Feb. 9, 2017, afternoon) at 43:8–10. Comcast argues that this testimony is not substantial evidence, because Dr. Polish does not elaborate on that process. But Dr. Polish’s testimony must be considered in context. The limitation that Claim 113 adds to Claim 112 is effectively identical to the limitation that Claim 7 adds to Claim 1.¹ Therefore, Dr. Polish’s testimony regarding Claim 7, which immediately preceded his testimony as to Claim 113, is relevant to the “same element” limitation. With respect to the “same element” limitation added by Claim 7, Dr. Polish testified that Sonera’s “service node” both “receives the inquiry and also is what does the determining by making a query with the HLR.” Trial Tr. (Feb. 9, 2017, afternoon) at 41:1–21, 87:6–89:13; *see also* Sonera Fig. 2a. That testimony applies equally to Claim 113’s “same element” limitation.

Comcast further argues that the “same element” limitation is not disclosed by Sonera

¹ As Comcast notes, Claim 7 requires that the “same element” that receives the inquiry also performs the determining step “*using*” the “second identifier,” while Claim 113 requires that the “same element” performs the determining step “*with the aid of*” the “second identifier.” Comcast JMOL Reply at 5, n.4. The Court’s construction of “with the aid of said first identifier” is essentially the same as the plain meaning of “*using*.” In any event, Comcast’s semantic point is irrelevant to the question of whether Sonera disclosed a process wherein the “same element” both receives the inquiry and performs the determining step.

because Dr. Polish testified that Sonera’s service node performs the determining step “by making a query with the HLR,” not independently. Trial Tr. (Feb. 9, 2017, afternoon) at 41:17–20; Comcast JMOL at 15. The Court did not construe the “same element” limitation, and “[i]n the absence of such a construction . . . the jury was free to rely on the plain and ordinary meaning” of the limitation. *ePlus, Inc. v. Lawson Software, Inc.*, 700 F.3d 509, 520 (Fed. Cir. 2012). Specifically, in *ePlus*, the Federal Circuit held that “the jury was free to rely on the plain and ordinary meaning of the term ‘determining’ and conclude that a user who prompts a vendor to report whether a particular item is available ‘determines’ whether that item is available—much in the same way, for example, that one may call and speak to a sales representative at a local store to determine whether a certain item is in stock.” 700 F.3d at 520. Similarly, the jury in this case was free to find that the determining step is performed by the service node, the “same element” that received the inquiry, with assistance from the HLR. For these reasons, the Court concludes that there is substantial evidence to support the determination that “same element” limitation was disclosed by Sonera.

c. The external messaging server limitation of Claim 113

Next, Comcast argues that there is no substantial evidence that a “messaging server external to the cellular network” is disclosed in the prior art, a limitation that Claim 113 incorporates through Claim 112. A messaging server, under the Court’s claim construction, is “a server that has functionality for storing and forwarding messages and for sending an inquiry for information relating to a wireless terminal.” Trial Tr. (Feb. 16, 2017) at 151:7–10. Comcast specifically argues that there is no substantial evidence that an external messaging server was disclosed in (1) Vuoristo, (2) Sonera, or (3) the knowledge of a skilled artisan. Comcast JMOL at 23–27. The Court addresses each argument in turn.

First, the Court concludes that Vuoristo itself disclosed an external messaging server. Dr. Polish testified that Vuoristo discloses an external messaging server in the form of its external SMSC. Trial Tr. (Feb. 9, 2017, afternoon) at 49:21–50:5. In response, Comcast argues that Vuoristo’s SMSC is not a messaging server under the Court’s construction because it does not have functionality to send inquiries.² Comcast JMOL at 25–26. On this issue, Dr. Polish testified that Vuoristo’s SMSC “mak[es] querys [sic] of the cellular network to get routing information.” Trial Tr. (Feb. 9, 2017, afternoon) at 49:21–50:5. But Dr. Polish later contradicted himself, testifying that in Vuoristo, “the query is coming from” the short message service gateway (“SMSGW”). Trial Tr. (Feb. 9, 2017, afternoon) at 91:4–13. He opined that Vuoristo discloses a messaging server, under the court’s construction, because “you can combine” the SMSGW (which performs the querying) and the SMSC (which stores and forwards). Trial Tr. (Feb. 9, 2017, afternoon) at 91:4–92:12. But there is no evidence that Vuoristo’s SMSGW is external to the cellular network. Indeed, the only evidence on this issue is Vuoristo itself, which depicts the SMSGW as internal. *See* Sprint Resp. to Comcast JMOL Ex. B (DX-242) (“Vuoristo”) at 2:1–25, 6:29–7:32. Fig. 1. Thus, to the extent Dr. Polish’s opinion requires the external SMSC to be combined with the internal SMSGW to create a messaging server, such a combination does not result in an external messaging server under the Court’s construction.

However, Dr. Polish also testified about Vuoristo’s service profile register (“SPR”). Vuoristo’s SPR “receives and sends messages and information . . . to the services units outside the network infrastructure (the short message service center SMSC).” Vuoristo at 16:28–32. If the SPR sends and receives messages and information to and from the SMSC, it necessarily

² Comcast does not dispute that Vuoristo’s SMSC has the functionality to store and forward messages, or that it is external. *See* Comcast JMOL at 25–26.

follows that the SMSC is sending and receiving messages and information—i.e., inquiries—to and from the SPR. *See* Sprint Resp. to Comcast JMOL at 16. In light of this, Dr. Polish opined that Vuoristo’s SMSC is “clearly communicating with the cellular network.” Trial Tr. (Feb. 9, 2017, afternoon) at 94:1–24.

The Court concludes that the evidence regarding Vuoristo’s SPR is substantial evidence that Vuoristo’s SMSC is external and has the functionality to send an inquiry. The Court also concludes that there is substantial evidence that Vuoristo disclosed an external messaging server. Having so concluded, the Court need not consider whether that limitation was disclosed elsewhere in the prior art. The Court nonetheless addresses Comcast’s two remaining arguments on this limitation.

Second, Dr. Polish opined, as with Vuoristo, that two of Sonera’s elements could be combined to form an external messaging server. Specifically, he testified that Sonera disclosed both a SMSC, which stores and forwards messages, and a short message service gateway message service center (SMS-GMSC) “that is performing the inquiry.” Trial Tr. (Feb. 9, 2017, afternoon) at 69:4–7. Dr. Polish then testified that these two elements could be combined to form a messaging server under the Court’s construction. *Id.* However, when asked whether the SMS-GMSC was a core network element, and therefore internal to the cellular network, Dr. Polish stated that he was not prepared to opine on “what’s in the core network or not.” Trial Tr. (Feb. 9, 2017, afternoon) at 68:20–69:3. The only expert testimony on the question of whether Sonera’s SMS-GMSC was internal or external came from Dr. Akl, who opined that the SMS-GMSC is a core network element, making it internal to the cellular network. Trial Tr. (Feb. 15, 2017, morning) at 11:11–23. In short, there was no evidence that Sonera’s SMS-GMSC was external to the cellular network. Without an external SMS-GMSC, Dr. Polish’s combination

theory fails. The Court therefore concludes that there is no substantial evidence that Sonera disclosed an external messaging server.

And third, Dr. Polish testified that messaging servers were disclosed in the prior art because the skilled artisan “would have known that GSM networks are disclosing external messaging servers, those were in the standards and the specs for GSM and someone of ordinary skill would have known that.” Trial Tr. (Feb. 9, 2017, afternoon) at 47:14–23. Dr. Polish focused on the GSM standard because “Sonera was aimed at a GSM network.” Trial Tr. (Feb. 9, 2017, afternoon) at 27:19; *see also* Sonera at 1:12–17. However, despite basing his opinion on GSM standards, Dr. Polish later admitted that he had not referenced any GSM standard in support of his opinion, and that he did not even know “how the GSM standard is written.” Trial Tr. (Feb. 9, 2017, afternoon) at 77:4–7, 91:22–17. Testimony that is admittedly without support is not substantial evidence.³

Sprint does not identify any evidence to support Dr. Polish’s testimony, and instead rests its argument on Dr. Akl’s testimony on cross-examination. Sprint’s Resp. to Comcast JMOL at 17. Specifically, Sprint cites the following exchange:

Q: [I]n the prior art it was already taught that there was a messaging server, as that term is used in these claims, external to the cellular network?

A: Yes.

Trial Tr. (Feb. 15, 2017) at 144:20–23.

Comcast argues that this exchange is taken out of context. Specifically, Comcast notes that Dr. Akl testified that the GSM standards—which, Dr. Polish testified, are the relevant standards for purposes of this analysis—do not disclose an external messaging server:

³ The only other evidence to which Sprint points is Dr. Polish’s testimony that “one would know you can implement [the querying functionality] within the SMSC.” Trial Tr. (Feb. 9, 2017, afternoon) at 91:22–92:12. But that testimony was in reference to Sonera, not the knowledge of a skilled artisan. Trial Tr. (Feb. 9, 2017, afternoon) at 92:7–12.

Q: Did Dr. Polish show the jury any such GSM standards or specifications?

A: No, he did not and I disagree that the GS[M] standard has an external messaging server. It has a store and forward capability, but not an external messaging server as construed by the Court, because as you remember, the messaging server has to have the two functionalities of store and forward and sending a query. And as we've talked about the GSM standard and the query is coming from the SMS-GMSC, that's what the GSM standard says. It's that functionality and the mobile switching center and that's core. So, I disagree and he didn't show any GSM standards that show any external messaging server.

Trial Tr. (Feb. 15, 2017) at 25:10–22.

In sum, Dr. Polish testified that a skilled artisan would have known that the GSM standard disclosed an external messaging server, but admitted that he “did not know” whether the GSM standard supported that opinion. Dr. Akl testified that the GSM standard does not disclose an external messaging server, but he also testified—in a single statement on cross-examination—that an external messaging server was disclosed somewhere in the prior art.⁴ The Court concludes that this evidence, “taken as a whole,” would not be “accepted by a reasonable mind as adequate to support the finding.” *Perkin-Elmer Corp.*, 732 F.2d at 893. Therefore, the Court further concludes that there is no substantial evidence that the knowledge of a skilled artisan disclosed external messaging servers, in the context of the relevant GSM standard.

The Court concludes that there is substantial evidence that prior art Vuoristo disclosed an external messaging server. However, there is no substantial evidence that an external messaging server was disclosed by Sonera or the knowledge of a skilled artisan.

⁴ The Court notes that a non-GSM standard could conceivably disclose an external messaging server that might be relevant to this discussion. However, the only evidence on that subject is Dr. Akl’s testimony in which he agrees, without explanation and without identifying a non-GSM standard, that “in the prior art it was already taught that there was a messaging server . . . external to the cellular network.” Trial Tr. (Feb. 15, 2017) at 144:20–23. The Court concludes that this single statement is not substantial evidence that a non-GSM standard disclosed an external messaging server.

- d. “Mapping” step not performed by the HLR limitation of Claim 113

Fourth, Claim 113, through the second step of Claim 112, describes “mapping said first identifier to . . . an internal identifier . . . wherein the mapping is not performed by a Home Location Register” (the “mapping” limitation). The Court did not construe “first identifier,” but it construed “internal identifier” to mean “an identifier used inside the cellular network to identify a specific wireless terminal which may, but need not be revealed outside the cellular network.” Trial Tr. (Feb. 16, 2017) at 151:15–19. Comcast argues that there is no substantial evidence that this limitation was disclosed by Sonera or Vuoristo. Comcast JMOL at 27.

The Court concludes that Sonera discloses a “mapping” limitation not performed by a HLR.⁵ Dr. Polish opined that Sonera disclosed “mapping said first identifier to a specific second [internal] identifier, so that’s one phone number to another phone number.” Trial Tr. (Feb. 9, 2017, afternoon) at 35:2–4. Dr. Polish gave the specific example of mapping an 800 number—“an external number that everybody knows, it’s advertised”—to a private number, “the phone number of the person who’s going to receive the text [and which] is not an advertised number.” Trial Tr. (Feb. 9, 2017, afternoon) at 34:18–35:12; *see also* Sonera at 1:12–31 (describing how calls and texts initially sent to to a particular number, such as an 800 number, can be “directed to the subscriber’s actual number,” and how “[c]alls can therefore be made from a mobile station to another mobile station or to an ordinary telephone number . . . by using only extension numbers.”).

Comcast does not dispute that a first identifier can be a phone number. Rather, Comcast

⁵ Comcast’s JMOL does not argue that Sonera’s mapping process is not performed by a HLR. *See generally* Comcast JMOL at 28–29. Dr. Polish testified that the service node performed the mapping process in Sonera, and not a HLR. Trial Tr. (Feb. 9, 2017, afternoon) at 42:6–22, 87:18–91:1 (referencing Sonera Fig. 2a). The Court concludes that this testimony is substantial evidence that the mapping step disclosed by Sonera was not performed by a HLR.

argues that an internal identifier may not be a phone number because a phone number “**needs** to be revealed, outside the cellular network . . . otherwise no one would be able to call the phone.” Comcast JMOL at 28 (emphasis in original). This assertion is based on Dr. Akl’s testimony that phone numbers are “revealed outside the cellular network,” because “that’s what you do with phone number[s], you give them out to people.” Trial Tr. (Feb. 15, 2017) at 17:11–14.

The Court rejects Comcast’s argument. Under the Court’s construction, an internal identifier “may, but need not be revealed outside the cellular network.” Trial Tr. (Feb. 16, 2017) at 151:15–19. The Court’s construction does not explicitly preclude the use of a phone number as an internal identifier. Rather, although phone numbers are typically shared with others, the Court concludes that a phone number could be kept completely private such that it is “not . . . revealed outside the cellular network.” The Court thus concludes that there is substantial evidence that Sonera disclosed Claim 113’s “mapping” limitation, because Dr. Polish’s testimony and Sonera itself “might be accepted by a reasonable mind as adequate to support the finding under review.” *Perkin-Elmer Corp.*, 732 F.2d at 893.

Having so concluded, the Court need not continue its analysis. Nonetheless, the Court considers whether there is substantial evidence that Vuoristo discloses mapping not performed by a HLR. Dr. Polish opined that Vuoristo “talks about mapping an MSISDN to an IMSI, which is exactly how it appears in the ‘870 patent.” Trial Tr. (Feb. 9, 2017, afternoon) at 53:17–25. There is no dispute that an MSISDN is a first identifier and an IMSI is an internal identifier. Vuoristo discloses that “[u]sing the information in the HLR, the MSISDN numbers can be *associated* with the correct subscriber identity IMSI.” Vuoristo at 2:23–25 (emphasis added). Comcast argues that “associated” is different from “the affirmative act of ‘mapping.’” Comcast’s Reply Regarding its Renewed Mot. for JMOL (“Comcast JMOL Reply”) at 10. The

Court did not construe “mapping,” and the jury was free to use the plain meaning of that term. *ePlus*, 700 F.3d at 520. The Court concludes that Vuoristo’s use of the term “associate” is substantial evidence to support a determination that Vuoristo disclosed a mapping step because of the similarity between these verbs.⁶

Comcast further argues that Vuoristo’s mapping step does not disclose the limitation that “the mapping is not performed by a Home Location Register” because Vuoristo’s mapping uses “the information in the HLR.” Comcast JMOL at 30; Vuoristo at 2:23–25. The Court agrees. Sprint does not address this argument in its Reply or Sur-Reply, and the Court has not identified any evidence that Vuoristo’s mapping step was not performed by the HLR.⁷ Thus, Vuoristo alone did not disclose Claim 113’s mapping limitation, because there is no evidence that Vuoristo’s mapping step was not performed by a HLR.

In short, the Court determines that there is substantial evidence that Claim 113’s mapping limitation, not performed by a HLR, is disclosed in Sonera, and that this limitation was disclosed in the prior art. There is no substantial evidence that Vuoristo alone discloses this limitation because there is no evidence that Vuoristo’s mapping is not performed by a HLR.

3. No Substantial Evidence of Motivation to Combine or Likelihood of Success

Having concluded that these four limitations were disclosed in the prior art, the Court turns to the requirement that the proponent of obviousness “demonstrate by clear and convincing

⁶ “Associate” is defined as “to bring together or into relationship in any of various intangible ways.” *Associate*, MERRIAM-WEBSTER.COM, <https://www.merriam-webster.com/dictionary/associated> (last visited August 11, 2017). Similarly, “map” can be defined as “to be assigned in a relation or connection.” *Map*, MERRIAM-WEBSTER.COM, <https://www.merriam-webster.com/dictionary/map> (last visited August 11, 2017).

⁷ Dr. Polish’s only testimony regarding Claim 113’s requirement that the mapping is not performed by the HLR was elicited during his testimony on whether Sonera anticipates the ‘870 patent. *See* Trial Tr. (Feb. 9, 2017, afternoon) at 42:6–22, 87:18–91:1. He offered no opinion as to whether Vuoristo’s mapping is performed by the HLR.

evidence that a skilled artisan would have been motivated to combine the teachings of the prior art references to achieve the claimed invention, and that the skilled artisan would have had a reasonable expectation of success in doing so.” *InTouch Techs.*, 751 F.3d at 1347. The Court grants Comcast’s JMOL as to obviousness on the grounds that (1) Dr. Polish’s testimony does not constitute substantial evidence of motivation to combine Sonera and Vuoristo, (2) Dr. Polish’s testimony does not constitute substantial evidence of motivation to combine Sonera with the knowledge of a skilled artisan, (3) there is no substantial evidence of motivation implicit in the prior art, and (4) there is no substantial evidence of a likelihood of success.⁸

a. Motivation to Combine Sonera and Vuoristo Based on Dr. Polish’s Testimony

The Court concludes that Dr. Polish’s testimony does not constitute substantial evidence of motivation to combine Sonera and Vuoristo. Dr. Polish testified that a skilled artisan would have combined the two inventions because “both deal with SMS messaging in a GSM network” and both are “about a messaging server looking up information about a phone.” Trial Tr. (Feb. 9, 2017, afternoon) 50:21–51:8; *see also* Sonera at 1:1–36, 3:14–36; Vuoristo at 2:1–25, 6:29–7:32. But there is insufficient evidence of a motivation to combine where the proponent of obviousness “gave no reason for the motivation of a person of ordinary skill to combine [two pieces of prior art] except that the references were directed to the same art or same techniques.” *Microsoft Corp. v. Enfish, LLC*, 662 F. App’x 981, 990 (Fed. Cir. 2016). Thus, the Court concludes that Dr. Polish’s conclusory testimony that Sonera and Vuoristo are directed at the

⁸ Comcast also argues that Dr. Polish’s testimony is “founded on by impermissible hindsight.” Comcast JMOL at 17 (citing *InTouch Techs.*, 751 F.3d at 1347). The Court does not reach this argument—regardless of whether Dr. Polish might have used hindsight, the Court concludes that there is no substantial evidence that a skilled artisan would have been motivated to combine the prior art to achieve the invention described in the ‘870 patent.

same technology, without pointing to any specific motivation to combine the two, is not substantial evidence of motivation to combine.

Dr. Polish also opined that Sonera and Vuoristo had other similarities. When asked why a skilled artisan would have thought to combine the two inventions, Dr. Polish testified that both “involve [1] messages being transferred, [2] having external messaging servers and [3] a cellular network and [4] getting routing information from that network. So, it’s the same, it’s the same problem.” Trial Tr. (Feb. 9, 2017, afternoon) 49:13–20. The Court concludes that Dr. Polish’s reference to (1) “messages being transferred” and (3) “having . . . a cellular network” are insufficient under *Enfish*, because the fact that two inventions were “directed to the same art or techniques” is insufficient evidence of motivation to combine. 662 F. App’x at 990. Moreover, Dr. Polish’s testimony and other evidence that both Sonera and Vuoristo (2) “hav[e] external messaging servers” is insufficient because the Court has determined that Sonera does not disclose an external messaging server. *See supra* Sec. II(B)(2)(c).

What remains is the question of whether Dr. Polish’s testimony in which he mentions the “same problem” of (4) “getting routing information from [a cellular] network” constitutes substantial evidence of a motivation to combine. Trial Tr. (Feb. 9, 2017, afternoon) 49:13–20. It is true that “any need or problem known in the field and addressed by the patent can provide a reason for combining the elements in the manner claimed.” *KSR*, 550 U.S. at 402. Yet aside from this single statement Dr. Polish did not present any testimony or other evidence detailing this alleged problem. His testimony is merely conclusory, and “rejections on obviousness grounds cannot be sustained by mere conclusory statements.” *KSR*, 550 U.S. at 418. Without any explanation of the alleged problem, the Court concludes that Dr. Polish’s conclusory

testimony is not substantial evidence that a skilled artisan would have been motivated to combine Sonera and Vuoristo.

Finally, Sprint argues that Dr. Polish's testimony regarding the limitations disclosed by Vuoristo supports its argument that a skilled artisan would have been motivated to incorporate those limitations into Sonera. Specifically, Dr. Polish testified that Vuoristo "shows the messaging server actually outside the cellular network." Sprint Resp. to Comcast JMOL at 14 (citing Trial Tr. (Feb. 9, 2017, afternoon) 52:3–13); *see also* Sonera, Fig. 1. He also opined that Vuoristo disclosed "mapping of a first and second identifier" using "exactly the same language as the '870 patent." Trial Tr. (Feb. 9, 2017, afternoon) 53:17–54:14, 55:2–6. But the mere fact that Vuoristo discloses an external messaging server⁹ or a mapping limitation¹⁰ does not bolster Sprint's argument—it shows only that those limitations were disclosed in the prior art, and "a patent composed of several elements is not proved obvious merely by demonstrating that each of its elements was, independently, known in the prior art." *KSR*, 550 U.S. at 418.

For these reasons, the Court concludes that Dr. Polish's testimony is not substantial evidence that a skilled artisan would have been motivated to combine Sonera and Vuoristo.

b. Motivation to Combine Sonera with the Knowledge of a Skilled Artisan Based on Dr. Polish's Testimony

Next, the Court turns to Dr. Polish's testimony relating to motivation to combine Sonera with the knowledge of a skilled artisan. Sprint argues (1) that evidence of such motivation is not required, and (2) in the alternative, that Dr. Polish's testimony is substantial evidence of such a motivation. The Court rejects both arguments.

⁹ *See supra* Sec. II(B)(2)(c).

¹⁰ In addition, the Court has concluded that Vuoristo does not disclose Claim 113's mapping limitation. *See supra* Sec. II(B)(2)(d).

First, Sprint argues that “the jury could have decided that claim 113 was obvious in view of Sonera and the knowledge of a skilled artisan—an independent basis for the obviousness verdict for which motivation to combine references is irrelevant.” Sprint Resp. to Comcast JMOL at 11. Sprint is incorrect. Although “a single prior art reference can render a claim obvious . . . there must be a showing of a suggestion or motivation to modify the teachings of [the single prior art] reference to the claimed invention in order to support the obviousness conclusion.” *SIBIA Neurosciences*, 225 F.3d at 1356; *see also Ormco Corp. v. Align Tech., Inc.*, 463 F.3d 1299, 1307 (Fed. Cir. 2006) (“A claim can be obvious even where all of the claimed features are not found in specific prior art references, where ‘there is a showing of a suggestion or motivation to modify the teachings of [the prior art] to the claimed invention.’”) (quoting *SIBIA Neurosciences*).

Second, Sprint argues that “Dr. Polish demonstrated in Sonera and in the knowledge of one of ordinary skill why a motivation exists to combine Sonera with the knowledge of a skilled artisan.” Sprint’s Sur-Reply to Comcast’s Renewed Motion for Judgment as a Matter of Law that Claim 113 of the ‘870 Patent is Not Obvious (“Sprint Sur-Reply to Comcast JMOL”) at 5. Although Sprint cites three parts of Dr. Polish’s testimony in support of this argument, the cited testimony does not address any motivation to combine Sonera with the knowledge of a skilled artisan. *See* Trial Tr. (Feb. 9, 2017, afternoon) 28:3–14 (describing Sonera, without reference to motivation to combine), 48:4–51:8 (describing Vuoristo and explaining how Sonera could be combined with Vuoristo). At best, one of these citations supports the argument that a skilled artisan *could* combine Sonera with a skilled artisan’s knowledge of an external messaging server. *See* Trial Tr. (Feb. 9, 2017, afternoon) 29:4–15 (explaining that Sonera is “talking about how you *can* have the messaging service separate from the cellular network”) (emphasis added). But

obviousness cannot be based on testimony that a skilled artisan “*could* combine these references”—there must be substantial evidence that the skilled artisan “*would* have been motivated to do so.” *InTouch Techs.*, 751 F.3d at 1352 (emphasis in original). The Court therefore concludes that Dr. Polish’s trial testimony is not substantial evidence that a skilled artisan would have been motivated to combine Sonera with the knowledge of a skilled artisan.

c. Motivation to Combine Implied by the Prior Art

Sprint next argues that, notwithstanding Dr. Polish’s failure to articulate a specific motivation for a skilled artisan to combine Sonera with either Vuoristo or some element known by the skilled artisan, the patents themselves are substantial evidence of a motivation to combine. Indeed, “a motivation [to combine] may be found *implicitly* in the prior art”—that is, the two patents. *Alza Corp. v. Mylan Labs., Inc.*, 464 F.3d 1286, 1290 (Fed. Cir. 2006) (emphasis in original). Even so, “rejections on obviousness grounds cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness.” *Id.* at 1291.

Sprint first argues that “Sonera itself provides a motivation to use an external messaging server” because it discusses the “independence and separate implementation” of an external messaging server in the form of its SMSC. Sprint Resp. to Comcast JMOL at 13. On this issue, the Court has concluded that Sonera does not disclose an external messaging server, *see supra* Sec. II(B)(2)(c). However, for purposes of its motivation analysis, the Court assumes *arguendo* that Sonera’s external SMSC discloses an external messaging server. Specifically, Sonera states that “[a] further advantage of the invention is that it allows an independence of the supplier of the short-message service centre (SMSC) because the service node is implemented as a unit separate from the short-message service centre (SMSC).” Sonera at 8:28–32. Even assuming

that independence is synonymous with externality, Sonera only “allows” for independence. That term is purely permissive; it is not evidence that a skilled artisan “would have been motivated” to incorporate an external messaging server. *InTouch Techs.*, 751 F.3d at 1352.

Next, Sprint argues that Vuoristo “further supports” the substantial evidence of a motivation to combine Sonera with an external messaging server and Vuoristo’s alleged mapping. Vuoristo discloses an external messaging server. *See supra* Sec. II(B)(2)(c). It also discloses mapping from an MSISDN to an IMSI, which, according to Dr. Polish, are “exactly the same” identifiers used in the ‘870 patent. Vuoristo at 2:24–25 (“the MSISDN numbers can be associated with the correct subscriber identity IMSI”); Trial Tr. (Feb. 9, 2017, afternoon) 54:3–14. But the mere fact that Vuoristo includes these limitations does not bolster Sprint’s argument—it shows only that the limitations were disclosed in the prior art, and “a patent composed of several elements is not proved obvious merely by demonstrating that each of its elements was, independently, known in the prior art.” *KSR*, 550 U.S. at 418.

For these reasons, the Court concludes that a motivation to combine is not implicit in Vuoristo or Sonera, and they are not substantial evidence of such a motivation.

d. Likelihood of Success

Finally, “[a] party seeking to invalidate a patent on obviousness grounds must demonstrate by clear and convincing evidence that a skilled artisan . . . would have had a reasonable expectation of success” when combining the prior art. *InTouch Techs.*, 751 F.3d at 1347. Comcast argues that Sprint presented no such evidence at trial. Comcast JMOL at 22–23; Comcast JMOL Reply at 7–8.

Sprint’s Response and Sur-Reply identify no evidence supporting a likelihood of success, and the Court, having examined the record, has discovered no such evidence. *See, e.g.*, Trial Tr.

(Feb. 9, 2017, afternoon) 49:13–51:8, 52:3–55:14 (identifying similarities between Sonera and Vuoristo and opining that the two could be combined, without explaining how that combination would be implemented); Trial Tr. (Feb. 9, 2017, afternoon) 29:4–15 (opining that Sonera is “talking about how you can have the messaging service separate from the cellular network,” without explaining how that separate service would be implemented). Sprint’s Response argues only that Sonera itself “states an expectation of success” because its SMSC “can be implemented separate.” Sprint’s Resp. to Comcast JMOL at 13; *see* Sonera at 2:28–31. For purposes of Sprint’s present argument, the Court assumes *arguendo* that a separately implemented SMSC would motivate a skilled artisan to incorporate an external messaging server. But as discussed *supra*, Sonera states only that a messaging server *could* be implemented externally. The Court concludes that this possibility is not substantial evidence that “the skilled artisan would have had a reasonable expectation of success.” *InTouch Techs.*, 751 F.3d at 1347.

With respect to obviousness, Sprint’s burden at trial was to present clear and convincing evidence, *inter alia*, of a motivation to combine and a reasonable expectation of success. The Court concludes that Dr. Polish’s testimony and the text of the patents themselves are not substantial evidence of a motivation to combine. Similarly, the Court concludes that the mere possibility that the prior art could be combined or modified is not substantial evidence of a reasonable likelihood of success.

4. Conclusion

The Court concludes that there is substantial evidence that the “said first identifier” limitation, the “same element” limitation, an external messaging server, and a “mapping” step not performed by a Home Location Register (“HLR”) were disclosed in the prior art. However, there is no substantial evidence of a suggestion or motivation to combine the prior art to create

the invention described by Claim 113, nor is there substantial evidence that any such combination would have been likely to succeed. Thus, the Court grants Comcast's JMOL, and concludes that Claim 113 of the '870 patent is not obvious.

C. Comcast's Alternative Motion for a New Trial on Obviousness

In its Renewed Motion for JMOL, Comcast requests, in the alternative, that the Court grant a new trial on the obviousness of Claim 113 of the '870 Patent. Comcast JMOL at 30. "If the court grants a renewed motion for judgment as a matter of law, it must also conditionally rule on any motion for a new trial by determining whether a new trial should be granted if the judgment is later vacated or reversed. The court must state the grounds for conditionally granting or denying the motion for a new trial." Fed. R. Civ. P. 50(c)(1). A new trial may be granted "for any reason for which a new trial has heretofore been granted in an action at law in federal court." Fed. R. Civ. P. 59(a)(1). Generally, a district court "ought to grant a new trial on the basis that the verdict was against the weight of the evidence only where a miscarriage of justice would result if the verdict were to stand." *Williamson v. Consol. Rail Corp.*, 926 F.2d 1344, 1352 (3d Cir. 1991).¹¹

"Where a trial is long and complicated and deals with a subject matter not lying within the ordinary knowledge of jurors a verdict should be scrutinized more closely by the trial judge, [in ruling on a motion for new trial], than is necessary where the litigation deals with material which is familiar and simple." *Lind v. Schenley Indus., Inc.*, 278 F.2d 79, 90–91 (3d Cir. 1960). The Court recognizes that the 14-day trial in this case was "long and complicated," and that the complexities of cellular networks are "a subject matter not lying within the ordinary knowledge

¹¹ For issues that are not patent-law-specific, the Federal Circuit defers to the law of the regional circuit in which the district court sits—here, the United States Court of Appeals for the Third Circuit. *Harris Corp. v. Ericsson Inc.*, 417 F.3d 1241, 1248 (Fed. Cir. 2005).

of jurors.” *Id.* The jury verdict, therefore, deserves close scrutiny.

The Court has determined that the jury verdict as to the obviousness of Claim 113 was not supported by substantial evidence, because no reasonable person would accept the evidence produced as adequate to support a finding that a skilled artisan would have been motivated to combine the prior art, or would have reasonably expected to succeed in doing so. For these same reasons, the Court concludes that the jury determination that Claim 113 was obvious was against the weight of the evidence. Thus, the Court conditionally grants Comcast’s Motion for a New Trial on the question of whether Claim 113 of the ‘870 patent is obvious.

D. Sprint’s Renewed Motion for Judgment as a Matter of Law Under Rule 50

Sprint also filed a Renewed Motion for Judgment as a Matter of Law, arguing that the ‘870 patent is ineligible under Section 101 of the Patent Act because it is directed to an abstract idea. For the reasons that follow, the Court denies Sprint’s Motion and again concludes that the asserted claims of the ‘870 patent are eligible under Section 101.

1. Applicable Law

Section 101 of the Patent Act provides that “[w]hoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.” 35 U.S.C. § 101. But there is an “important implicit exception” to the broad scope of Section 101: “laws of nature, natural phenomena, and abstract ideas are not patentable.” *Assoc. for Molecular Pathology v. Myriad Genetics, Inc.*, 133 S. Ct. 2107, 2116 (2013).

The Supreme Court has created a two-step “framework for distinguishing patents that claim laws of nature, natural phenomena, and abstract ideas from those that claim patent-eligible applications of those concepts.” *Alice Corp. Pty. Ltd. v. CLS Bank Int’l*, 134 S. Ct. 2347, 2355

(2014) (citing *Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 132 S. Ct. 1289, 1296–97 (2012)). First, the court must “determine whether the claims at issue are directed to one of those patent-ineligible concepts.” *Id.* Second, if the claims are directed to a patent-ineligible concept, the court must “determine whether the additional elements transform the nature of the claim into a patent-eligible application.” *Id.* (quotations omitted). The Federal Circuit “typically refer[s] to step one as the ‘abstract idea’ step and step two as the ‘inventive concept’ step.” *Intellectual Ventures I LLC v. Erie Indem. Co.*, 850 F.3d 1315, 1325 (Fed. Cir. 2017). A more fulsome discussion of the applicable legal framework is included in this Court’s Memorandum and Order dated August 24, 2016. *Comcast v. Sprint II*, 203 F. Supp. 3d at 523–30.

2. Discussion

The Court concludes that the asserted claims in the ‘870 patent¹² are not directed to an abstract idea, but that they instead implement a specific improvement in cellular networking. Sprint first challenged the eligibility of the ‘870 patent under 35 U.S.C. § 101 by Motion for Summary Judgment. The Court undertook a comprehensive analysis of the issue, denying Sprint’s Motion and concluding that the claims at issue are not directed to an abstract idea and, in the alternative, that there are sufficient additional elements to transform the claims into a patent-eligible application. See *Comcast v. Sprint II*, 203 F. Supp. 3d 499. Sprint’s Renewed Motion for Judgment as a Matter of Law includes “Sprint’s previous arguments for finding the asserted claims of the ‘870 patent invalid under section 101.” Sprint’s Mem. of Law in Supp. of its Renewed Mot. for Judgment as a Matter of Law Under Rule 50 (“Sprint’s JMOL”) at 4, n.4. The Court incorporates by reference its previous decision on those issues, and again rejects those

¹² Because the parties agree that the eligibility of the asserted dependent claims, Claim 7 and Claim 113, is predicated on the eligibility of Claim 1, the Court does not address the dependent claims separately.

arguments. *See Comcast v. Sprint II*, 203 F. Supp. 3d at 523–30. However, Sprint’s Motion includes two additional arguments—based on Comcast’s expert testimony at trial and three recent decisions from the Federal Circuit—that the Court addresses in this Memorandum.

First, Sprint argues that expert testimony presented by Comcast at trial shows that the ‘870 patent simply describes how a process that can be performed by a human can be performed by a computer, and is therefore patent ineligible. Sprint JMOL at 11. “An inventive concept that transforms the abstract idea into a patent-eligible invention must be significantly more than the abstract idea itself, and cannot simply be an instruction to implement or apply the abstract idea on a computer.” *Bascom Global Internet Servs., Inc. v. AT&T Mobility LLC*, 827 F.3d 1341, 1349 (Fed. Cir. 2016).

Dr. Akl offered expert opinion testimony about “the switching, the lookup” process that enables “the phones to communicate with each other and with outside networks.” Trial Tr. (Feb. 2, 2017, morning) 97:3–17. To aid the jury, Dr. Akl analogized that process to the actions of a switchboard operator. *Id.* at 97:3–9. Dr. Akl explained that switchboard operators “have the wires and they—you know, a call comes in and they plug [the wires] in and complete the call, and the way to know how to plug it in [correctly] is they have the notebooks in front of them, so they look it up and they see what call is going to be connected to what user and they manually do it.” *Id.* at 97:21–98:4. In the context of the ‘870 patent, Dr. Akl opined that “when the [switchboard] operator is looking in her notebook to see what to connect, that’s what the subscriber databases do,” and “the connections [are] what the [mobile switching center (“MSC”)] does.” Trial Tr. (Feb. 2, 2017, afternoon) 13:15–14:3. In short, Dr. Akl testified that this manual process formerly performed by the switchboard operator “is now being done by computers.” Trial Tr. (Feb. 2, 2017, morning) 97:21–98:6.

Sprint argues that this testimony “illustrates the hallmark of an ineligible abstract idea—a real-world practice long-performed in the field, now performed by computers.” Sprint’s JMOL at 12. The Court has rejected this argument in denying Sprint’s Motion for Summary Judgment:

While identifying characteristics and sorting messages is an activity that people perform every day, without computer assistance, the method implemented in the ‘870 patent has no such everyday analog and could not be performed “entirely in the human mind.” *See CyberSource Corp. v. Retail Decision, Inc.*, 654 F.3d 1366, 1375 (Fed. Cir. 2011). Rather, the ‘870 patent describes a method that can *only* be performed on a computer. Specifically, it claims a method of *sending an inquiry* between two elements in a network. Characterizing the method as simply “matching identifiers to retrieve information,” as Sprint[] does in its bank teller analogy, fails to consider each step in the method and removes the method from context, ignoring the problem that the ‘870 patent solves. *See Internet Patents Corp.*, 790 F.3d at 1346 (“[T]he claims are considered *in their entirety* to ascertain whether their *character as a whole* is directed to excluded subject matter.” (emphasis added)).

Comcast v. Sprint II, 203 F. Supp. 3d at 528. Dr. Akl’s testimony at trial was merely an analogy to assist the jury in understanding a complex process. It does not disturb the Court’s previous conclusion that the ‘870 patent “can *only* be performed on a computer.” *Id.* The Court therefore again rejects Sprint’s argument.

Second, Sprint points to three decisions published by the Federal Circuit after this Court issued the Memorandum and Order dated August 24, 2016. Sprint contends that these decisions “reinforce Sprint’s argument that the ‘870 patent is directed to the abstract idea of matching identifiers to retrieve information and is invalid under section 101.” Sprint’s JMOL at 12–13. The Court concludes that these three decisions do not adversely impact the Court’s August 24, 2016, Memorandum and Order, and rejects Sprint’s argument.

Sprint argues that two Federal Circuit decisions involving abstract ideas are similar to the concept underlying the ‘870 patent. The first of these is *Intellectual Ventures I LLC v. Erie Indem. Co.*, in which the Federal Circuit concluded that the invention at issue was patent-

ineligible because it was “drawn to the abstract idea of ‘creating an index and using that index to search for and retrieve data.’” 850 F.3d at 1327. In the second, the Federal Circuit held that “receiving e-mail (and other data file) identifiers, characterizing e-mail based on the identifiers, and communicating the characterization—in other words, filtering files/e-mail—is an abstract idea.” *Intellectual Ventures I LLC v. Symantec Corp.*, 838 F.3d 1307, 1313 (Fed. Cir. 2016). It is Sprint’s position that *Erie* and *Symantec* are “instructive” and support its argument that the claims of the ‘870 patent are aimed at a patent-ineligible abstract idea. Sprint JMOL at 13–14.

But the ‘870 patent does not merely describe a process of creating and using an index to retrieve data, as in *Erie*, or a filtering process like the one in *Symantec*. Rather, as this Court previously held, the claims of the ‘870 patent “set out a method for achieving a specific goal—obtaining information about a wireless terminal with a dynamic network address—by *applying* the abstract idea of matching identifiers to retrieve information in the cellular network.” *Comcast v. Sprint II*, 203 F. Supp. 3d at 526 (emphasis in original). *Erie* and *Symantec* do not affect that ruling.

In the third decision cited by Sprint, the Federal Circuit ruled that the patent claims at issue were ineligible because they merely “confine[d] the abstract idea to a particular technological environment—in [that] case, cellular telephones.” *Affinity Labs of Texas, LLC v. DIRECTV, LLC*, 838 F.3d 1253, 1258–59 (Fed. Cir. 2016). The Federal Circuit reasoned that “merely limiting the field of use of the abstract idea to a particular existing technological environment does not render the claims any less abstract.” *Id.* at 1258–59. Sprint argues that *Affinity Labs* governs this case because the ‘870 patent merely applies an abstract idea to the technological environment of cellular networks and messaging servers. Sprint JMOL at 14. This argument fails—as discussed *supra*, the ‘870 Patent is aimed at a non-abstract idea. The fact that

the ‘870 patent and the patent at issue in *Affinity Labs* are both directed at a “particular technological environment” does not impact that conclusion. *See Comcast v. Sprint II*, 203 F. Supp. 3d at 526.

For these reasons, the Court concludes that the claims of the ‘870 patent are not directed to an abstract idea, and are therefore patent eligible.¹³ Accordingly, the Court denies Sprint’s Motion for JMOL on the ground that the claims are ineligible under § 101.

III. COMCAST’S MOTIONS RELATING TO DAMAGES

The jury determined that Sprint had infringed Comcast’s ‘870 patent, and awarded damages of \$1.5 million in the form of a one-time lump-sum royalty. Comcast has filed a Motion for a New Trial on Damages, arguing that the jury verdict was not supported by substantial evidence. Comcast’s argument that the verdict is not supported by substantial evidence is based on an incorrect statement of the law. The correct standard is sufficient evidence.¹⁴

Comcast also moves to amend the final judgment to add pre- and post-judgment interest.

For the reasons set forth below, the Court denies Comcast’s Motion for a New Trial on Damages, and grants Comcast’s Motion to Amend the Final Judgment to Add Pre-Judgment and Post-Judgment Interest.

¹³ Although Sprint’s Motion addresses only the “abstract idea” step, the Court reiterates its conclusion that, “even if the claims at issue are directed to an abstract idea at step one, there are sufficient additional elements [under the “inventive concept” step] to transform the claims into a patent-eligible application.” *Comcast v. Sprint II*, 203 F. Supp. 3d at 530.

¹⁴ Comcast’s argument is based on *Power Integrations, Inc. v. Fairchild Semiconductor Int’l, Inc.*, 711 F.3d 1348, 1356 (Fed. Cir. 2013) (citing *Thabault v. Chait*, 541 F.3d 512, 532 (3d Cir. 2008)). Although *Power Integrations* states that the Third Circuit’s standard in this context is “substantial evidence,” 711 F.3d at 1356, *Thabault* in fact states that the correct standard is “sufficient evidence,” 541 F.3d at 532; *see also Leonard v. Stemtech Int’l Inc.*, 834 F.3d 376, 392 (3d Cir. 2016). Nonetheless, the Court concludes that the distinction between these two standards, if any, is insignificant in the context of this case, because the Court would reach the same conclusion under either standard.

A. Comcast's Motion for a New Trial on Damages

The invention described in the ‘870 patent was invented by Outi Aho, who assigned the patent to Nokia Mobile Phones, Ltd. (“Nokia”). The patent application was filed on February 22, 2001, but asserts priority to a Finnish patent application dated December 23, 1999. The patent issued on April 26, 2005. On June 30, 2010, Comcast and Nokia entered into an agreement (hereinafter “Comcast-Nokia Agreement”) wherein Comcast purchased a portfolio of U.S. and international patents, including the ‘870 patent, from Nokia for \$600,000. At trial, Sprint’s damages expert, Dr. Alan Cox, opined that the damages award in this case, if any, should be \$1.5 million. His opinion was based in part on the purchase price of the Comcast-Nokia Agreement. The jury verdict precisely matched Dr. Cox’s expert opinion.

Comcast now seeks a new trial on damages, arguing that there was insufficient evidence to support the award. In particular, Comcast argues that (1) the Comcast-Nokia Agreement is not sufficient evidence to support the jury verdict, (2) Dr. Cox impermissibly relied on forward citation analysis, and (3) Dr. Cox mentioned additional impermissible rationales. The Court rejects these arguments. To the contrary, there is sufficient evidence to support the jury verdict on damages.

I. Standard of Review

Federal Rule of Civil Procedure 59 provides that a new trial may be granted “for any reason for which a new trial has heretofore been granted in an action at law in federal court.” Fed. R. Civ. P. 59(a)(1). “To review damages in patent cases, [the Federal Circuit applies] regional circuit law to procedural issues” such as the Rule 59 standard. *Finjan, Inc. v. Secure Computing Corp.*, 626 F.3d 1197, 1207 (Fed. Cir. 2010). In the United States Court of Appeals for the Third Circuit, “new trials because the verdict is against the weight of the evidence are

proper only when the record shows that the jury verdict resulted in a miscarriage of justice or where the verdict, on the record, cries out to be overturned or shocks our conscience.”” *Id.* at 1203 (quoting *Williamson*, 926 F.2d at 1353). “A jury’s damages award will not be upset so long as there exists sufficient evidence on the record, which if accepted by the jury, would sustain the award.” *Thabault*, 541 F.3d at 532. In short, ““our obligation is to uphold the jury’s award if there exists a reasonable basis to do so.”” *Finjan*, 626 F.3d at 1207 (quoting *Motter v. Everest & Jennings, Inc.*, 883 F.2d 1223, 1230 (3d Cir. 1989)).

2. Applicable Law

In this case, the parties agreed that any damages awarded should be in the form of a reasonable royalty based on the result of a hypothetical negotiation that “attempts to ascertain the royalty upon which the parties would have agreed had they successfully negotiated an agreement just before infringement began.” *Lucent Techs., Inc. v. Gateway, Inc.*, 580 F.3d 1301, 1324 (Fed. Cir. 2009) (citing *Georgia-Pacific Corp. v. U.S. Plywood Corp.*, 318 F.Supp. 1116, 1120 (S.D.N.Y.1970)); *see* Comcast MNT at 4; Sprint’s Opp. to Comcast’s MNT on Damages (“Sprint Resp. to Comcast MNT”) at 8. The hypothetical negotiation asks the factfinder to determine what reasonable royalty a willing licensor and a willing licensee would have agreed on just before the infringement began. *Lucent*, 580 F.3d at 1324. The licensor, in this case, would be Nokia, because Nokia owned the ‘870 patent when Sprint began infringing it; the licensee would be Sprint; and the hypothetical negotiation would have taken place on April 26, 2005. *See* Comcast MNT at 8; Sprint Resp. to Comcast MNT at 9; Trial Tr. (Feb. 10, 2017, morning) at 23:8–19.

“Where, as here, the current patent owner purchased the patent, the value of the consideration given in exchange for the patent may be relevant to the determination of a

reasonable royalty because it may bear on the amount that might have been accepted by a prudent patentee who was engaging in a hypothetical licensing negotiation.” *Endress Hauser, Inc. v. Hawk Measurement Sys. Pty. Ltd.*, 892 F. Supp. 1123, 1131–32 (S.D. Ind. 1995), *aff’d sub nom. Endress + Hauser, Inc. v. Hawk Measurement Sys. Pty. Ltd.*, 122 F.3d 1040 (Fed. Cir. 1997); *see also Pers. Audio, LLC v. Apple, Inc.*, No. 9:09CV111, 2011 WL 3269330, at *10 (E.D. Tex. July 29, 2011) (“[T]he jury could, and should, have given substantial weight” to the inventor’s “offer to sell, not merely to license, the actual patents-in-suit, not merely comparable technology.”). The relevance of the purchase price is an extension of the so-called *Georgia-Pacific* factors, which allow the factfinder to consider, *inter alia*, “the royalties received by the patentee for the licensing of the patent in suit.” *Lucent*, 580 F.3d at 1324 (citing *Georgia-Pacific*, 318 F. Supp. at 1120).

3. Sufficient Evidence to Sustain the Jury Verdict

Dr. Cox opined that a reasonable royalty for the ‘870 patent would be \$1.5 million. Trial Tr. (Feb. 10, 2017, morning) at 39:25–40:3. In reaching that opinion, Dr. Cox testified that he considered the Comcast-Nokia Agreement, under which Comcast paid Nokia \$600,000 for ownership of a portfolio of patents including the ‘870 patent. Trial Tr. (Feb. 10, 2017, morning) at 28:1–6.

Comcast’s Motion sometimes appears to suggest that the Comcast-Nokia Agreement should have been excluded at trial. For example, Comcast argues that “the Comcast-Nokia agreement . . . *cannot* serve as a reasonable proxy for assessing what Sprint would have paid to license the patent” and that the Agreement “*cannot* be used to establish a reasonable royalty.” Comcast MNT at 10 (emphasis added). However, Comcast did not object to the admissibility of the Comcast-Nokia Agreement at trial, so any argument that the Agreement should have been

excluded is rejected as waived. *Belmont Indus., Inc. v. Bethlehem Steel Corp.*, 512 F.2d 434, 438 (3d Cir. 1975) (“[I]t is well-settled law that a party may not seek a new trial on the basis of objections to evidence not brought to the court’s attention at the original trial.”). Comcast may argue only that the Comcast-Nokia Agreement is insufficient to support the jury verdict. Comcast MNT at 10; *see Lucent*, 580 F.3d at 1325.

Comcast primarily argues that Dr. Cox “refused” to account for Sprint’s actual use of the ‘870 patent. Comcast MNT at 10–15. Under the hypothetical negotiation, the parties must account for the “economic demand for the claimed technology.” *LaserDynamics*, 694 F.3d at 77. In accounting for demand, “evidence of usage after infringement started can, under appropriate circumstances, be helpful to the jury and the court in assessing whether a royalty is reasonable,” but there is no requirement that damages be proven by direct evidence of actual use. *Lucent Techs., Inc. v. Gateway, Inc.*, 580 F.3d 1301, 1333–34 (Fed. Cir. 2009). When Comcast purchased the ‘870 patent, it had no plans to use the patent. *Id.* Thus, Comcast argues, the Comcast-Nokia Agreement is not comparable because the parties to the Agreement did not consider the scope of the infringer’s use, whereas that would be a focus of the hypothetical negotiation. However, Dr. Cox testified that he considered economic demand. Specifically, he acknowledged the enormous popularity of text messaging at the time of the hypothetical negotiation. Trial Tr. (Feb. 10, 2017, morning) at 36:14–17. Dr. Cox also testified regarding the uncertainty in the text messaging market, opining that the licensee took on “the risk that SMS might not grow or that people would decide to communicate in other ways.” Trial Tr. (Feb. 10, 2017, morning) at 87:7–97:6. Based on this testimony, the Court concludes that Dr. Cox adequately accounted for the “economic demand for the claimed technology” as required under *LaserDynamics*. 694 F.3d at 77.

In addition, Comcast argues that the 2010 Comcast-Nokia Agreement is not comparable to the 2005 hypothetical negotiation because the parties’ “economic circumstances . . . varied greatly.” Comcast MNT at 15. Comcast’s expert Michele Riley testified that in 2005, Nokia “was the world’s largest manufacturer of phones, enjoying very healthy profitability levels;” yet by 2010, its financial position “had significantly deteriorated.” Trial Tr. (Feb. 3, 2017, afternoon) at 86:2–8, 89:1–3. Thus, argues Comcast, Nokia was a weaker negotiator in 2010 than it would have been in 2005. Comcast MNT at 15–17. However, Dr. Cox testified that Nokia was “still doing very well” and was “very healthy” financially in 2010. Trial Tr. (Feb. 14, 2017, afternoon) at 70:3–16. Indeed, Ms. Riley herself testified that Nokia was still profitable in 2010. Trial Tr. (Feb. 3, 2017, afternoon) at 89:1–5. Dr. Cox further opined that Nokia was stable enough to “take their time about selling whatever assets they wanted to sell,” noting that the Comcast-Nokia Agreement was “negotiated over a period of about two years.” Trial Tr. (Feb. 14, 2017, afternoon) at 70:3–16. Considering both experts’ testimony, the Court concludes that there is sufficient evidence that Nokia’s bargaining position in 2005 was comparable to its 2010 position.

Comcast also argues that the licensees’ bargaining power was not comparable. Dr. Cox testified that under the circumstances of the 2005 hypothetical negotiation, Sprint “needed a license [to the ‘870 patent] in order to stay in business.” Trial Tr. (Feb. 14, 2017, afternoon) at 68:12–19. In contrast, in 2010, Comcast “was interested in buying [the ‘870 patent] primarily for defensive reasons,” according to Comcast’s Vice President for Strategic Intellectual Property James Finnegan. Trial Tr. (Feb. 1, 2017, afternoon) at 8:10–19. The Court agrees that because Sprint was committed to licensing the ‘870 patent, its bargaining position in 2005 was weaker than Comcast’s 2010 position, because Comcast had no need for the patent. However, this

difference is not so significant that it renders the Comcast-Nokia Agreement and related evidence insufficient to support the jury verdict.

Under both the Comcast-Nokia Agreement and the hypothetical negotiation, some interest in the ‘870 patent was being conveyed, and Nokia was the patent owner. The Agreement is plainly relevant to the hypothetical negotiation. *Endress Hauser*, 892 F. Supp. at 1131–32; *Pers. Audio*, 2011 WL 3269330, at *10. And to the extent the two are not perfectly comparable, Dr. Cox accounted for a number of differences between them. In addition, the Court notes that “[v]igorous cross-examination, presentation of contrary evidence, and careful instruction on the burden of proof are the traditional and appropriate means of attacking shaky but admissible evidence.” *Daubert*, 509 U.S. at 596. Comcast had ample opportunity to dispute the weight of the Agreement through cross examination and expert testimony. Comcast availed itself of that opportunity, and the jury sided with Dr. Cox. The Court concludes that the Comcast-Nokia Agreement, through the lens of the testimony presented at trial, is sufficient to support the jury verdict.

4. *Forward Citation Analysis*

Comcast argues that Dr. Cox’s use of forward citation analysis “requires a new trial on damages” because (1) forward citation analysis is unreliable and (2) Dr. Cox failed to tie his analysis to the facts of the case. Comcast MNT at 17. The Court has already heard and rejected both arguments, holding that Dr. Cox’s use of forward citation analysis to corroborate his expert opinion was reliable and tied to the facts of this case. *Comcast Cable Commc’ns, LLC v. Sprint Commc’ns Co., LP (Comcast v. Sprint III)*, 218 F. Supp. 3d 375, 382–84 (E.D. Pa. 2016). Comcast now argues that Dr. Cox’s trial testimony discloses that he relied on forward citation analysis rather than using it merely to corroborate his damages opinion. Comcast MNT at 17–

29. Specifically, Comcast notes that when Dr. Cox was asked whether he would reach his \$1.5 million damages opinion “even if there was no [forward] citation analysis,” he responded “I’m not sure that that’s true.” Trial Tr. (Feb. 14, 2017, morning) at 91:17–20. But Dr. Cox immediately clarified that forward citation analysis merely bolstered his confidence in his opinion, stating that “[i]f there had not been corroborating evidence that indicated that this patent was very valuable, wasn’t even looked at very much, then I would be less confident of my number, but I’m now very confident of my number as a result of that analysis.” Trial Tr. (Feb. 14, 2017, morning) at 92:1–5. Dr. Cox’s full testimony reveals that he used forward citation analysis not to reach his damages opinion, but to cement his confidence in that opinion.

Comcast further argues that a new trial should be granted based on “an analogous situation” addressed by the Federal Circuit. Comcast MNT at 29 (citing *Uniloc USA, Inc. v. Microsoft Corp.*, 632 F.3d 1292, 1311 (Fed. Cir. 2011)). In *Uniloc*, one party’s damages expert showed the jury a pie chart depicting the reasonable royalty sought as a portion of the accused product’s entire market value—\$19 billion. *Id.* The expert testified that the resultant ratio served as “kind of a check” on his damages calculation. *Id.* However, under the “entire market value rule,” the entire market value of a product may be a basis for damages “only where the patented feature creates the basis for customer demand or substantially creates the value of the component parts.” *Id.* at 1318 (citing *Lucent Techs.*, 580 F.3d at 1336)). The introduction of the entire market value of a product can cause enormous bias, and the district court granted a conditional new trial on damages because the rule was violated. *Id.* at 1321. The Federal Circuit upheld the district court’s decision, concluding that the jury verdict “was supported in part by the faulty foundation of the entire market value.” *Id.*

The Court rejects Comcast's comparison to *Uniloc*. Forward citation analysis, unlike the entire market value, is not prohibited by a bright-line rule. Rather, forward citation analysis is reliable when, as here, it is tied to the facts of the case. *Comcast v. Sprint III*, 218 F. Supp. 3d at 384; *see also Better Mouse Co., LLC v. SteelSeries ApS*, No. 2:14-CV-198-RSP, 2016 WL 3611528, at *3 (E.D. Tex. Jan. 5, 2016) (concluding that a similar methodology was “reasonably reliable”); *but see Finjan, Inc. v. Blue Coat Sys., Inc.*, No. 13-CV-03999-BLF, 2015 WL 4272870, at *8 (N.D. Cal. July 14, 2015) (rejecting forward citation analysis as unreliable where expert offered “no explanation as to why the forward citation methodology is an appropriate measure of the value of the patents at issue in this case”); *Oracle Am., Inc. v. Google Inc.*, No. C 10-03561 WHA, 2012 WL 877125, at *2 (N.D. Cal. Mar. 15, 2012) (rejecting forward citation analysis as unreliable where expert failed to count citations to predecessor patents). Dr. Cox's use of forward citation analysis is a far cry from *Uniloc*, in which the introduction of the entire market value of the accused product “skew[ed] the damages horizon for the jury.” 632 F.3d at 1311. Thus, Dr. Cox's corroborative use of forward citation analysis does not disturb this Court's ruling that there was sufficient evidence to support the jury verdict of \$1.5 million.

5. *References to other Sprint patents and a 1999 Nokia Invention Report*

Finally, Comcast argues that Dr. Cox's references to “(1) other patents supposedly used in Sprint's system, and (2) a ranking of the importance of the invention of the ‘870 patent in a 1999 Nokia Invention Report form” cannot support his reasonable royalty opinion. Comcast MNT at 29. The Court rejects both arguments.

First, Comcast argues that Dr. Cox's testimony regarding other Sprint patents was unsupported and irrelevant. Dr. Cox testified that “there are at least 10,000, probably tens of thousands, of patents involved in the operation of a cellular network.” Trial Tr. (Feb. 10, 2017,

morning) at 17:10–21. He also testified that Sprint owned 23 messaging-related patents, Trial Tr. (Feb. 14, 2017, morning) at 85:4–12, with the intent, according to Comcast, “to suggest that Sprint was using its own patented technology in its messaging system and that the contribution of the ‘870 patent should be discounted accordingly,” Comcast MNT at 31. Comcast argues that Dr. Cox’s testimony on these issues was unsupported. Comcast MNT at 29–31. Significantly, Comcast did not object to those parts of Dr. Cox’s testimony at trial. *See* Trial Tr. (Feb. 10, 2017, morning) at 17:10–23; Trial Tr. (Feb. 14, 2017, morning) at 85:4–22. As stated *supra*, Comcast may not seek a new trial on this ground after failing to object to the testimony at trial. *Belmont Indus.*, 512 F.2d at 438 (“[I]t is well-settled law that a party may not seek a new trial on the basis of objections to evidence not brought to the court’s attention at the original trial.”). Nonetheless, the Court concludes that Comcast’s argument fails on its merits. Dr. Cox’s statements about other Sprint patents were made in passing, and do not diminish the sufficiency of the evidence—namely, the Comcast-Nokia Agreement and related expert testimony—to support the jury verdict.

Second, Comcast argues that a 1999 Nokia Invention Report (the “1999 Report”) introduced at trial and referenced by Dr. Cox had “no relevance” to the hypothetical negotiation. Comcast MNT at 31–33 (citing DX-150). The 1999 Report indicated that a manager at Nokia believed, in 1999, that the invention that became the ‘870 patent had a “strategic importance” of two on a scale of zero to five. Trial Tr. (Feb. 10, 2017, morning) at 34:10–23. Comcast argues that the 1999 Report is irrelevant to Nokia’s 2005 bargaining position. Comcast MNT at 31–33. Comcast stipulated to the admission of DX-150, Trial Tr. (Feb. 8, 2017, afternoon) at 107:18–108:1), and any argument for a new trial based solely on its admission is rejected, *Belmont Indus.*, 512 F.2d at 438.

But the Court again concludes that Comcast's argument fails on its merits. Comcast attacked the 1999 Report through the "traditional and appropriate means" of "[v]igorous cross-examination [and] presentation of contrary evidence." *Daubert*, 509 U.S. at 596. On cross-examination, Dr. Cox admitted that text messaging "wasn't widely used and commonly available" in 1999. Trial Tr. (Feb. 14, 2017, morning) at 28:15–29:13. That admission implies that the 1999 Report would not be perfectly analogous to Nokia's valuation of the '870 patent in 2005, by which time messaging had exploded. Trial Tr. (Feb. 10, 2017, morning) at 36:14–17. And Comcast introduced evidence that the percent of a wireless subscriber's monthly bill attributable to messaging rose from just 0.2% in 1999 to 8% in 2005, an indication that the value of text messaging services rose similarly over that period. Trial Tr. (Feb. 14, 2017, morning) at 30:11–31:4. In short, Comcast successfully identified the weaknesses of the 1999 Report at trial for the jury. Taking into consideration all the evidence on the issue of damages, including the references to additional patents and the 1999 Report, the Court concludes there was ample support for the verdict.

6. Conclusion

The Court determines that the evidence is sufficient to support the jury verdict. In particular, the Comcast-Nokia Agreement involved the sale of the patent at issue, and the seller was Nokia, the licensor in the hypothetical negotiation. Comcast's 2010 bargaining power was stronger than Sprint's 2005 position, but this difference is not so significant that it renders the Agreement and associated expert testimony insufficient to support the jury verdict. That sufficiency is not diminished by references to additional Sprint patents, which were made in passing, and the 1999 Report, which Comcast effectively attacked. The Court therefore denies Comcast's Motion for a New Trial on Damages.

B. Comcast’s Motion to Amend Final Judgment to Add Pre- and Post-Judgment Interest

1. Pre-Judgment Interest

Pre-judgment interest should be awarded under 35 U.S.C. § 284 “absent some justification for withholding such an award.” *Whitserve, LLC v. Computer Packages, Inc.*, 694 F.3d 10, 36 (Fed. Cir. 2012) (quoting *Gen. Motors Corp. v. Devex Corp.*, 461 U.S. 648, 657 (1983)). In patent cases, “no recovery shall be had for any infringement committed more than six years prior to the filing of the complaint . . . for infringement in the action. 35 U.S.C. § 286. Comcast filed this lawsuit on February 17, 2012. Thus, Comcast argues that prejudgment interest should be awarded beginning February 17, 2006. Sprint has pointed to no justification for withholding pre-judgment interest, and the Court has identified none. The Court therefore concludes that pre-judgment interest shall be awarded.

“The rate of prejudgment interest and whether it should be compounded or uncompounded are matters left largely to the discretion of the district court. In exercising that discretion, the district court must be guided by the purpose of prejudgment interest, which is to ensure that the patent owner is placed in as good a position as he would have been had the infringer entered into a reasonable royalty agreement.” *Bio-Rad Labs., Inc. v. Nicolet Instrument Corp.*, 807 F.2d 964, 969 (Fed. Cir. 1986). To that end, the court must attempt to “make the patent owner whole” for “the foregone use of the money between the time of infringement and the date of the judgment.” *Gen. Motors Corp.*, 461 U.S. at 656.

Sprint argues that prejudgment interest should be awarded at the weekly average 1-year constant maturity Treasury yield (“T-Bill”) rate, compounded annually. According to Sprint, “the vast majority of courts have awarded treasury investment rates” in this situation. Sprint’s Opp. to Comcast’s Mot. to Amend Final Judgment to Add Pre-Judgment Interest and Post-

Judgment Interest (“Sprint Resp. to Mot. Amend”) at 3. In fact, “[i]t is difficult to tell if there is an actual trend in any direction.” *Mars, Inc. v. Coin Acceptors, Inc.*, 513 F. Supp. 2d 128, 136 (D.N.J. 2007). Even so, “the T–Bill rate has been accepted and employed by many courts in patent cases as a reasonable method of placing a patent owner in a position equivalent to where it would have been had there been no infringement.” *Cornell Univ. v. Hewlett-Packard Co.*, No. 01-CV-1974, 2009 WL 1405208, at *3 (N.D.N.Y. May 15, 2009). Sprint also notes that the T–Bill rate is required for post-judgment interest, and argues that consistency favors using that framework for prejudgment interest as well. Sprint Resp. to Mot. Amend at 4–5.

In contrast, Comcast seeks the Pennsylvania statutory interest rate of six percent, 41 Pa. Const. Stat. § 202, with interest compounded quarterly, arguing that this rate is “often” used in United States District Courts within Pennsylvania. Comcast’s Mot. for Pre-Judgment and Post-Judgment Interest (“Comcast Mot. Amend”) at 5 (*citing Univ. of Pittsburgh of Com. Sys. of Higher Educ. v. Varian Med. Sys., Inc.*, No. 08CV1307, 2012 WL 1436569, at *10 (W.D. Pa. Apr. 25, 2012), *aff’d in part, vacated in part on other grounds*, 561 F. App’x 934 (Fed. Cir. 2014) (reasoning that “it is in the interest of justice to have a consistent rate at which prejudgment interest is awarded, and that the local statutory rate is an appropriate benchmark,” and ordering quarterly compounding); *Air Vent, Inc. v. Vent Right Corp.*, No. 02:08-CV-00146, 2011 WL 2117014, at *2 (W.D. Pa. May 24, 2011) (noting that “the Federal Circuit has affirmed awards of prejudgment interest at the Pennsylvania statutory rate of 6%”)). Comcast mentions in passing that it “likely would have made a much higher return on its money” than either proposed rate, but presents no evidence that it would have invested in anything specific. Comcast’s Reply in Support of its Mot. to Amend (Comcast Mot. Amend Reply) at 2.

The Court finds that the T-Bill rate, compounded annually, is the more appropriate approach. First, the T-Bill rate is adequate to compensate Comcast for its lost use of royalties, because Comcast has presented no evidence that it borrowed moneys at a higher rate during the infringement period or that it would have invested the royalties at a higher rate. The Federal Circuit and other district courts have repeatedly reached the same conclusion. *See, e.g., Laitram Corp. v. NEC Corp.*, 115 F.3d 947, 955 (Fed. Cir. 1997) (finding no abuse of discretion where district court awarded T-Bill rate as adequate to compensate where there was no evidence that patent holder would have borrowed at a higher rate); *Finjan, Inc. v. Blue Coat Sys., Inc.*, 2016 WL 3880774, at *18 (awarding T-Bill rate where there was no evidence that patent holder borrowed money during the infringement period at a higher rate); *Transocean Offshore Deepwater Drilling, Inc. v. GlobalSantaFe Corp.*, No. CIV.A. H-03-2910, 2006 WL 3227315, at *6 (S.D. Tex. Nov. 6, 2006) (awarding T-Bill rate where patent holder presented no evidence that a higher rate was necessary for full compensation).

Second, the Court is persuaded by the interest in consistency in the standard for pre- and post-judgment interest. The T-Bill rate, compounded annually, is required for post-judgment interest. 28 U.S.C. § 1961. “Courts have found this fact persuasive in utilizing the T-Bill rate for pre-judgment interest as well.” *Mars*, 513 F. Supp. 2d at 137; *Intex Plastic Sales Co. v. Hall*, No. C-85-2987-JPV, 1991 WL 270167, at *5 (N.D. Cal. July 10, 1991), *aff’d*, 960 F.2d 155 (Fed. Cir. 1992) (concluding that “the statutorily sanctioned [T-Bill] rate has a far more reasoned basis,” and rejecting patent holder’s speculative argument that he would have invested at a higher rate); *Nat’l Presto Indus., Inc. v. Black & Decker Inc.*, No. 89 C 8978, 1992 WL 125559, at *8 (N.D. Ill. May 27, 1992) (concluding, with respect to prejudgment interest, that patent holder would “be fully compensated by being given the interest rate it could have earned if it had

had the money to invest, the interest rate that is statutorily established for post-judgment interest: the Treasury Bill rate”).

Comcast may obtain damages for infringement beginning February 17, 2006. Because the purpose of prejudgment interest is to “make the patent owner whole” for “the foregone use of the money between the time of infringement and the date of the judgment,” the Court concludes that the appropriate rate is the T-Bill rate for the week preceding February 17, 2006. *Gen. Motors Corp.*, 461 U.S. at 656. That rate was 4.7%. Sprint Resp. to Mot. Amend, Ex. A-1.¹⁵ And because “compounding is necessary to fully compensate the patentee,” the Court further concludes that the statutorily prescribed compounding mechanism for post-judgment interest—annual compounding—is also appropriate. *Mars*, 513 F.Supp. 2d at 137.

Finally, the Court must decide when prejudgment interest stopped accruing. Sprint argues that prejudgment interest should be awarded only through the date of the original judgment. Sprint’s Surreply in Opp. to Comcast’s Mot to Amend (“Sprint Surreply to Mot. Amend”) at 7–8 (*citing McDermott v. Party City Corp.*, 11 F. Supp. 2d 612, 633 (E.D. Pa. 1998) (awarding prejudgment interest only through the date of the original judgment, even when entering an amended judgment)). Comcast argues that prejudgment interest should be awarded “from February 17, 2006 to February 21, 2016 [sic], the date of judgment.” Comcast Mot. Amend at 6. But in its Reply, Comcast argues that the Court should award prejudgment interest through the date of an order amending the judgment. Comcast Mot. Amend Reply at 6. Comcast identifies no legal basis for its argument that prejudgment interest should continue to accrue after the original judgment was entered. The Court agrees with Sprint, and finds that

¹⁵ See also United States District Court for the District of Utah, 2006 Post Judgment Interest Rate, available at <http://www.utd.uscourts.gov/2006-post-judgment-interest-rate> (last visited August 11, 2017).

prejudgment interest accrued beginning February 17, 2006, and ending February 21, 2017, the date of the original judgment.

2. *Post-Judgment Interest*

The Court turns next to post-judgment interest, which is mandatory. 28 U.S.C. § 1961(a). Post-judgment interest must be calculated at a rate “equal to the weekly average 1-year constant maturity Treasury yield . . . for the calendar week preceding the date of the judgment,” *id.*, and it must be compounded annually. 28 U.S.C. § 1961(b). The Court first concludes that Comcast is entitled to post-judgment interest on the jury verdict of \$1.5 million beginning on February 21, 2017, the date of the original entry of judgment.

Because interest is not unique to patent law, the law of the regional circuit controls. In the Third Circuit, post-judgment interest is calculated based on the sum of the jury verdict plus any prejudgment interest. *Sun Ship, Inc. v. Matson Navigation Co.*, 785 F.2d 59, 63 (3d Cir. 1986). However, post-judgment interest on prejudgment interest does not accrue until the entry of an order fixing the amount of prejudgment interest. *Travelers Casualty and Surety Co. v. Insurance Co. of N. America*, 609 F.3d 143, 174–75 (3d Cir. 2010). Therefore, Sprint argues that post-judgment interest on any awarded prejudgment interest cannot accrue until the date that such prejudgment interest is awarded. Sprint Resp. to Mot. Amend at 7. Comcast agrees that *Travelers* governs this case.¹⁶ Following *Travelers*, the Court concludes that post-judgment interest on all accrued prejudgment interest may not be awarded until this Court’s entry of an order awarding prejudgment interest. Such an order accompanies this Memorandum.

3. *Application of Pre- and Post-Judgment Interest*

The Court concludes as follows. Prejudgment interest shall be awarded at the T-Bill rate

¹⁶ As discussed *supra*, Comcast requests that the Court award prejudgment interest through the date of the Court’s amended final judgment. The Court has denied that request.

for February 17, 2006, or 4.7%, compounded annually. Prejudgment interest shall be awarded on the damages verdict of \$1.5 million beginning February 17, 2006, which is the first date at which Comcast can recover damages based on its filing date, and ending on February 21, 2017, the date of the original judgment.

Post-judgment interest on the damages verdict of \$1.5 million shall be awarded beginning February 21, 2017, the date on which the original judgment was entered, and ending on August 16, 2017, the date on which this Court's order fixing prejudgment interest was entered. The applicable rate is the weekly average yield for the week preceding the original judgment. The weekly average yield for February 17, 2017, was 0.82%,¹⁷ and such interest shall be compounded annually.

Finally, post-judgment interest on the combination of the damages verdict and all accrued interest shall be awarded beginning August 16, 2017, the date on which such interest was awarded by order accompanying this Memorandum. The applicable rate is the weekly average yield for the week preceding the original judgment, which will be amended by order accompanying this Memorandum. The weekly average yield for February 17, 2017, was 0.82%,¹⁸ and such interest shall be compounded annually.

IV. CONCLUSION

Comcast's Renewed Motion for Judgment as a Matter of Law that Claim 113 of the '870 Patent is Not Obvious is granted on the grounds that there was no substantial evidence of motivation to combine, or likelihood of success. For those same reasons, Comcast's alternative

¹⁷ United States District Court for the District of Utah, 2017 Post Judgment Interest Rate, available at <http://www.utd.uscourts.gov/2017-post-judgment-interest-rate> (last visited August 11, 2017); *see also* Comcast Mot. to Amend at 7.

¹⁸ United States District Court for the District of Utah, 2017 Post Judgment Interest Rate, available at <http://www.utd.uscourts.gov/2017-post-judgment-interest-rate> (last visited August 11, 2017); *see also* Comcast Mot. to Amend at 7.

motion for a new trial on the obviousness of Claim 113 is also granted. Sprint's Renewed Motion for Judgment as a Matter of Law Under Rule 50, on the grounds of ineligibility of the '870 patent under 35 U.S.C. § 101, is denied. Comcast's Motion for New Trial on Damages is denied. Comcast's Motion to Amend Final Judgment to Add Pre-Judgment Interest and Post-Judgment Interest is granted as described *supra*.

An appropriate order follows.